

# EFFECT OF CORONA PANDEMIC IN PERFORMANCE EVALUATION OF SELECTED ELSS MUTUAL FUNDS IN INDIA

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## ABSTRACT

*In this paper, ELSS mutual fund performance evaluation is measured through statistical ratios like Standard Deviation, Beta, Sharpe's Ratio, Jensen's Alpha, and Treynor Ratio. All the ratios were calculated on the daily returns of the last 3 years. The daily NAV was taken from the websites and the yearly return was calculated on the basis of NAV. The data of NAV was taken from 2017-18 to 2021-22. Effect due to the Corona pandemic can be seen in returns of all funds. Each fund gave a very low return or negative return during 2018-19 and 2019-20. But once the recovery from the corona pandemic started in 2020-21, every fund has given a tremendous return of over 55%. It was found that an investor must take into consideration the risk ratios before investing. The Sharpe ratio was positive for all funds, which means every fund has given more than the risk-free rate. All other ratios were also showing the good performance of mutual funds.*

**Keywords:** Mutual Fund, ELSS, Standard Deviation, Beta, Sharpe's Ratio, Jensen's Alpha, Treynor's Ratio

## INTRODUCTION

A mutual fund is the best option for those investors who cannot invest a lump-sum amount but are interested to invest in the stock market. Investing in a mutual fund is also advisable for those who do not have enough knowledge of the share market. A mutual fund is an instrument for investment in which Mutual fund agencies collect money from small investors invest in different portfolios and manage them. Mutual fund managers sum up the small amounts received from investors and invest a large amount in stocks in mutual funds as per nature and type of mutual fund. A mutual fund is a collection of different stocks. There are different types of mutual funds with different aims. For example, Some mutual funds have the aim of getting high returns, some mutual funds are created to earn a slow and steady income, some mutual funds invest in only money market instruments, etc. Any mutual fund invests money in equity or debt or both. Mutual funds can be of two types from the entering and exit point of view.

### 1) Open-ended Funds:

An performance evaluation investor can enter and exit at any time in open-ended mutual funds. These types of funds have no maturity period. These funds may be beneficial when there are large movements in the market. When the market is crashing, a fund manager can divest money, and when the market is going up, the advantages of the market can be taken.

### 2) Close-ended Funds:

An investor can enter these types of funds only during the initial period. Once the initial period is over, investment cannot be made in these types of mutual funds. These funds are having fixed maturity period. The amount invested in these types of mutual funds is redeemed automatically on its maturity date. The initial period is known as New Fund Offer (NFO) period.

## Types of Mutual Funds:

### 1. Equity or Growth Scheme

This scheme is very universal and most preferable. In this type of mutual fund, the Fund manager invests in equity shares only. Investors' can indirectly participate in the stock market. The portfolio includes only equity shares.

Money market instruments, bonds, and other debt instruments all are ignored in these schemes as the name suggests equity schemes. As these schemes include only equity shares, the scheme follows the rule of “high risk - high return” in the long run. Here high risk does not always result in high returns only. There may be a huge loss also. The fund manager invests in stocks of different sectors to minimize the risk. Most of the time investment is made in stocks that are totally opposite in nature. So if one stock is going down, the loss can be set off by the increasing value of another stock.

### **Equity funds can be categorised into the following:**

- **Sector-specific funds:**

In these types of mutual funds, investment is made in stocks of a specific sector only. These funds contain high risk as the investment is made in stocks of only a single sector. If that particular sector is doing well then there is not an issue with returns but when that sector is going down, the risk cannot be covered because all investment is made in only one sector. These sectors can be the banking sector, chemicals, IT, infrastructure, automobiles, pharmaceuticals, etc., or segments like large-cap, small-cap, mid-cap, etc.

- **Index funds:**

In these types of mutual funds, investment is made in stocks that are included in an index of any stock exchange. As the investment is made in stocks of indexes, an investor can invest on his own. He does not have to depend on the fund manager. The index can be of BSE or NSE. Here is the list of some well-known indexes: Nifty, NiftyFMCG, NiftyBank, NiftyInfra, NiftyIT, NiftyMid100Free, etc. are indices of NSE. SENSEX, BSE100, MIDCAP, SMLCAP, AUTO, POWER, etc. are indices of BSE.

- **Tax saving funds:**

Investors get tax benefits by investing in these types of mutual funds. This scheme is also known as **Equity Linked Saving Schemes (ELSS)**. Tax is deducted under 80C of the Income Tax Act, 1961. By investing in ELSS, an investor can claim for a tax rebate of up to Rs. 1,50,000 a year and save up to Rs. 46,800 a year in tax. For tax benefit under 80C ELSS is the only type of mutual fund. For ELSS there is a compulsory lock-in period of 3 years. The lock-in period means the period for which the money invested cannot be withdrawn or disinvested or redeemed. The lock-in period is the minimum time period. The maturity period of the ELSS scheme can be more than the lock-in period.

### **2. Money market funds or liquid funds:**

As the name clarifies the meaning, in these funds the money is invested only in money market instruments. The money market is the market for the short term, so money invested in these funds gives a return for a short period. Money is invested in short-term instruments. These funds give a low return as compared to equity funds. So the risk is also low in this scheme. Those investors who do not want to take more risk, invest their money in these schemes for low and short-term returns. This is a good alternative to a savings bank account.

### **3. Fixed income or debt mutual funds:**

These types of funds invest mostly in debt instruments for getting fixed income with less risk. These instruments can be bonds, debentures, government securities, etc. bearing a fixed rate of interest. As the return is fixed in these types of mutual funds, they have no risk or very less risk. They follow the rule “Low Risk - Low Return”. Investors who desire to take no risk or very low risk invest their money in these mutual funds. These schemes give low and stable income to the investor. In these funds, the credit risk is associated with the investment.

### **4. Balanced funds:**

As the name suggests, mutual fund schemes that invest in both equity and debt are called balanced funds. The money is allocated between debt instruments as well as equities in some proportion. This proportion is not fixed. It can be changed according to the market situation. These funds give moderate income and contain low risk compared to equity funds and more risk compared to money market funds or debt mutual funds.

### **5. Hybrid / Monthly Income Plans (MIP):**

These funds are the same as balanced funds. The main difference is that the proportion of equity is less in hybrid funds as compared to balanced funds. Investors having a low-risk appetite and wanting regular returns, invest in

these schemes.

## 6. Gilt funds:

Mutual funds which invest money only in government securities are called gilt funds. This scheme is suitable for those who want no credit risk in their investment. But at the same time, the rate of interest is very low in these funds as there is no risk.

## REVIEW OF LITERATURE

**Bhagyasree and Kishori (2016)** investigated the performance of open-ended, growth-oriented equity schemes for the period from April 2011 to March 2015 of a transition economy. The closing NAV of every day was used for calculating returns from the scheme. 14 out of 30 schemes had performed very well than expected. Jensen's Alpha showed performance of 19 out of 30 schemes was better. Sharpe Ratio showed that the schemes are giving higher returns than the risk-free rate.

**Bhuvanewari and Selvam (2011)** analysed the risk-return relationship of Indian Mutual Fund Schemes (Dividend Option). The study was on 35 mutual fund schemes. On the basis of the t-value, it was found that 11 schemes showed a significant t-value and no significant relationship between risk and return in other 24 schemes. According to t-alpha values, it was found that only 3 schemes' returns were significantly different from market returns during the study period.

**Choudhary and Chawla (2014)** analysed the performance of the growth-oriented equity diversified schemes on the basis of Risk-Return Evaluation. The period of data taken was 2005 to 2013. Statistical measures like Average Return, Sharpe Ratio, Treynor Ratio, S.D., Beta, and Coefficient of Determination ( $R^2$ ). The majority of funds performed better than expected according to Sharpe Ratio and Treynor Ratio.

**Gupta et al. (2015)** performance evaluation is carried out through relative performance index, risk-return analysis, Treynor's ratio, Jensen's Alpha, Sharpe's ratio, and Fama's measure. Daily NAVs were used for measuring performance. They found that most of the funds gave positive returns during the study period from 2008 to 2012.

**Qamruzzaman (2014)** attempted to evaluate the performance of 32 growth-oriented mutual funds based on monthly returns compared to benchmark returns. Different risk ratios like Treynor ratio, Sharpe ratio, Jensen's Alpha were used for this purpose. He found that most of the funds have not performed better than expected. Only a few funds gave positive returns. All other funds gave negative returns during the study period.

**Murhadi (2010)** measured the performance of mutual fund managers in terms of "market timing" and "selectivity" within the framework suggested by Treynor and Mazuy (1966) and Henriksson and Merton (1981). A panel of 55 mutual funds was taken, over a period of 17 months from Feb. 2008 to June 2009. Out of them, only 4 mutual funds have a good performance in market timing and 4 mutual funds have a good performance in stock selection.

**Prajapati and Patel (2012)** compared the performance of equity diversified mutual fund schemes of five selected Asset Management Companies. This selection was based on AUM. Data of daily closing NAV was taken from Jan. 1, 2007 to Dec. 31, 2011. Evaluation of Indian mutual fund carried through relative performance index, risk-return analysis, Beta, Treynor's Ratio, Sharpe Ratio, Jensen's measure.

**Rajib (2013)** studied on various tax saving mutual funds. Performance evaluation of selected Indian Tax Saving mutual funds was carried through different ratios like Treynor ratio, Sharpe ratio, Standard Deviation and Beta. Comparison between performance of 5 tax saving mutual funds was done on the basis of ratios.

**Rao (2006)** classified 419 open-ended equity mutual fund schemes in six different investment styles. A comparison was made between 21 open-ended equity growth-plans and 21 open-ended equity dividend plans. Student's T-test and F-test were used to test the hypothesis that growth funds provide higher returns than dividend funds. He found that growth plans contain high risk but also give high returns.

**Sheth et al. (2017)** evaluated the performance of selected public and private mutual fund schemes on the basis of 5 years quarterly NAV. Comparison of performance of public sector schemes and private sector schemes was done with the help of ratios like Beta, Sharpe ratio, Treynor ratio, Jensen's alpha, etc. It was found that all schemes either performed better than the market's performance or were similar to it. It was also found that private mutual fund companies were more beneficial than public mutual fund companies.

**Tripathi and Japee (2020)** focused mainly on the performance of selected equity (large-cap, Mid-cap, and Small-cap) open-end fund schemes. 5 funds from each category were taken to analyse the financial performance through statistical parameters like beta, Jensen's Alpha, S.D., and Sharpe Ratio. The data was taken for the period from Jan. 1, 2015 to Dec. 31, 2019. The performance of 10 out of 15 funds was very good. They found that investors must consider risk ratios before making the decision of investment.

## RESEARCH METHODOLOGY

### Objectives of the study:

1. To measure and compare the performance of a few selected Equity Linked Saving Scheme (ELSS).
2. To measure the risk-return relationship of selected ELSS mutual funds
3. To see whether the investment in the ELSS fund is profitable or not.

### Source of data:

The study is based on secondary data taken from factsheets of different asset management companies and official websites. The data was taken from moneycontrol.com.

### Scope of the study:

This study contains 11 ELSS mutual funds schemes launched by different Asset Management Companies. These funds were selected based on rating. 11 funds top-rated by moneycontrol were selected and performance was evaluated of those funds. The NAV of 11 ELSS funds was taken for the period of five years from 1<sup>st</sup> April, 2017 to 31<sup>st</sup> March, 2022.

### Statistical Tools:

#### ➤ Standard Deviation

The standard deviation shows a fund's volatility. It means how much the returns of a fund fluctuate (increase or decrease) in a short period of time. The standard deviation measures risk by measuring the degree of fluctuation in relation to the average return. In short, if the average return is fixed for some period, the Standard Deviation will be zero. As against this, if the average return is highly volatile, then there will be a high standard deviation.

$$\text{Standard Deviation} = \sqrt{\frac{\sum(X-\bar{X})^2}{N-1}}$$

#### ➤ Beta

As the standard deviation shows the volatility in average return. Beta shows the comparison between volatility in returns of a fund with an index or benchmark. A fund whose beta value is close to 1, shows the performance of a fund is similar to the index or benchmark. This measure is very useful for deciding the performance of a fund with the overall market. So, a decision for investment can be made by considering this measure.

$$\text{Beta} = \frac{\text{Covariance between return of security and return of market}}{\text{Variance of market returns}}$$

#### ➤ Sharpe Ratio

The Sharpe Ratio is defined as portfolio risk premium divided by portfolio risk. Portfolio risk premium means excess return over a risk-free rate of return. So, a high Sharpe Ratio of a fund shows better performance than a fund having a low Sharpe Ratio. If more than one portfolio is to be ranked, Sharpe Ratio for all portfolios must be calculated.

$$\text{Sharpe Ratio} = \frac{\text{Return on Portfolio (Rp)} - \text{Return on the Risk-Free Rate (Rf)}}{\text{Standard Deviation of the portfolio } (\sigma)}$$

#### ➤ Jensen's Alpha

Jensen's Alpha is based on Systematic risk. Daily returns of the portfolio and daily returns of the market are regressed for computing systematic risk similar to CAPM. The difference between actual return and calculated return is a measure of performance related to the market. Positive Alpha indicates that the portfolio has outperformed whereas Negative Alpha indicates that the portfolio has underperformed.

$$\alpha_p = \bar{R}_p - (\bar{R}_f + \beta_p(\bar{R}_m - \bar{R}_f))$$

## ➤ Treynor Ratio

The Treynor Ratio is an addition to Sharpe Ratio. In this, risk premium is divided by Beta or Systematic risk instead of using total risk ( $\sigma$ ). This is a better measure for those investors who are holding diversified portfolios.

$$\text{Treynor Ratio} = \frac{\text{Return on Portfolio (Rp)} - \text{Return on the Risk-Free Rate (Rf)}}{\text{Beta of the portfolio (Bp)}}$$

## DATA ANALYSIS

Table – 1 NAV & Returns

NAV & Returns - elss,elss fund Performance Tracker											
Sr. No.	Scheme Name	2017-18		2018-19		2019-20		2020-21		2021-22	
		NAV (Rs.)	Return (%)	NAV (Rs.)	Return (%)	NAV (Rs.)	Return (%)	NAV (Rs.)	Return (%)	NAV (Rs.)	Return (%)
1	IDFC Tax Advantage (ELSS) Fund - Regular Plan – Growth	55.91	8.31%	55.21	-1.25%	47.99	-	87.52	82.37%	90.26	3.13%
2	Bank of India Tax Advantage Fund - Regular Plan – Growth	54.68	14.78%	49.89	-8.76%	53.70	7.64%	93.23	73.61%	88.30	-5.29%
3	Quant Tax Plan – Growth	90.30	3.48%	94.47	4.62%	95.55	1.14%	201.22	110.59%	210.27	4.50%
4	ICICI Prudential Long Term Equity Fund (Tax Saving) – Growth	358.22	9.13%	377.32	5.33%	339.60	-	535.24	57.61%	546.45	2.09%
5	Kotak Tax Saver Fund – Growth	41.27	1.93%	44.43	7.66%	42.31	-4.77%	66.03	56.06%	66.71	1.03%
6	Mahindra Manulife ELSS Kar Bachat Yojana - Regular Plan – Growth	11.42	-1.97%	11.29	-1.14%	10.56	-6.47%	17.10	61.93%	17.21	0.64%
7	JM Tax Gain Fund – Growth	16.62	9.92%	16.87	1.50%	15.98	-5.28%	25.67	60.64%	25.70	0.12%
8	Aditya Birla Sun Life Tax Plan - Regular Plan – Growth	39.30	11.49%	37.25	-5.22%	36.30	-2.55%	49.65	36.78%	45.84	7.67%
9	Union Long Term Equity Fund – Growth	23.96	5.83%	24.12	0.67%	23.66	-1.91%	37.76	59.59%	38.37	1.62%
10	PGIM India ELSS Tax Saver Fund – Growth	14.15	6.87%	14.36	1.48%	13.19	-8.15%	21.20	60.73%	21.93	3.44%
11	Canara Robeco Equity Tax Saver Fund - Regular Plan – Growth	61.58	11.08%	65.01	5.57%	64.81	-0.31%	106.20	63.86%	105.31	-0.84%

## FINDINGS

### Table-1 NAV & Returns:

1. From table-1, it can be seen that the performance of every mutual funds was smooth and normal till 2019-20. In 2019-20, almost every fund has negative return. It is because of Corona pandemic. But in the year 2020-21,



- market has started correction and every fund gave remarkable returns of more than 50-55%. After that, in 2021-22, again the returns were normal as before the pandemic.
- In 2017-18, The returns of **Kotak Tax Saver Fund** and **Mahindra Manulife ELSS Kar Bachat Yojana** were very low. These funds were underperformed. **Quant Tax Plan** was having an average return of around 3%. The other 8 funds had a good performance and a return of around 8-10%.
  - In 2018-19, the performance of every fund started declining. Only **Kotak Tax Saver Fund** showed a highest return of 7.66%. **ICICI Prudential Long Term Equity Fund** and **Canara Robeco Equity Tax Saver Fund** gave a return of around 5%. All other funds' performance was below 5%. Some of them gave negative returns also.
  - In 2019-20, the Effect of the Corona Pandemic had been seen in the performance of every selected mutual fund. Only 2 funds out of 11 gave positive returns. These were the **Bank of India Tax Advantage Fund** and **Quant Tax Plan**. The other 9 funds had negative returns.
  - In 2020-21, the market started a correction. Every fund stated giving tremendous returns. In the year 2020-21, the rate of return compared to the previous year was more than 50% for 10 funds out of 11 funds. The only fund which has a return of less than 50% was **Aditya Birla Sun Life Tax Plan** with a return of 36.78%. This return is low as compared to the returns of other funds. It seems that the correction effect was low in this fund than in others. **Quant Tax Plan** showed a return of 110.59%. it seems that the effect of correction in this fund was very high.
  - In 2021-22, all funds started performing normally. 2 out of 11 funds had negative returns and only 1 fund gave a return of more than 7%. It was **Aditya Birla Sun Life Tax Plan** whose returns were 7.67% in the year 2021-22. All other funds have an average return of 0 to 5% for this year.

**Table – 2 Risk Ratios**  
**Risk Ratios - ELSS fund Performance Tracker**

Sr. No.	Scheme Name	Standard Deviation	Beta	Sharpe Ratio	Jensen's Alpha	Treynor Ratio
1	IDFC Tax Advantage (ELSS) Fund - Regular Plan – Growth	18.31	0.94	0.64	3.98	0.13
2	Bank of India Tax Advantage Fund - Regular Plan – Growth	16.55	0.86	0.86	5.81	0.17
3	Quant Tax Plan – Growth	19.77	0.84	1.18	17.09	0.28
4	ICICI Prudential Long Term Equity Fund (Tax Saving) – Growth	17.48	0.93	0.45	0.19	0.09
5	Kotak Tax Saver Fund – Growth	16.94	0.91	0.53	0.37	0.10
6	Mahindra Manulife ELSS Kar Bachat Yojana - Regular Plan – Growth	17.34	0.94	0.55	0.66	0.10
7	JM Tax Gain Fund – Growth	18.56	0.98	0.50	0.87	0.09
8	Aditya Birla Sun Life Tax Plan - Regular Plan – Growth	16.45	0.86	0.12	-6.10	0.02
9	Union Long Term Equity Fund – Growth	17.24	0.90	0.65	4.46	0.12
10	PGIM India ELSS Tax Saver Fund – Growth	17.11	0.92	0.59	1.44	0.11
11	Canara Robeco Equity Tax Saver Fund - Regular Plan – Growth	17.09	0.90	0.65	2.28	0.12

(Date: 09-07-2022)

## FINDINGS

### Table-2 Risk Ratios:

1. The Standard Deviation for all the selected funds was very high i.e. above 15. It means that all selected ELSS funds are having volatility in returns. This shows that there may be a deviation of around 15% in returns from the average return.
2. Beta for all funds is nearer to 1 which shows that the performance of each fund is similar to the benchmark or index. So, it can be said that the performance of the selected funds is good.
3. Sharpe Ratio shows the return in excess of the risk-free rate. Each fund shows a positive Sharpe ratio. It means each fund's performance is good.
4. Positive Jensen's Alpha indicates that the fund has outperformed the benchmark. It seems that the returns of the fund are in excess of the benchmark return. Only *Aditya Birla Sun Life Tax Plan* has negative Alpha which means underperformance than the benchmark.
5. Treynor's Ratio for all the funds is positive which means the return is in excess of systematic risk. Positive Treynor's ratio indicates the return over systematic risk. So, it can be said that all funds are performing well.

## CONCLUSION

From this paper, it can be seen that the performance of every mutual fund has fallen in the year 2019-20. This is due to the impact of the Corona Pandemic. The impact was remarkable on the performance of every mutual fund. Also, there was a sharp fall in NIFTY during this year. Once the impact of Corona started falling, the market started recovering. In the year 2020-21, every fund gave a return of more than 50%. From this, we can conclude that if the market falls due to any reason, the investors must not worry. The market will always give a good return, once it starts recovering. The only thing which is necessary is patience.

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